Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.64

Product:	3067820 - SiTech+ Reducer STR TYPE A 160X125
Unit:	1 piece
Manufacturer:	Wavin - IT - SM Maddalena

Wavin SiTech+ is a waste water system made of mineral- reinforced polypropylene (PP), which offers increased durability, but more importantly is quiet and easy to install.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	24-11-2022
End of validity:	24-11-2027
Verifier:	Martijn van Hövell - SGS Search

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard.

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - IT - SM Maddalena (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.33E+0	1.91E-2	9.70E-2	1.45E+0	1.74E-2	6.97E-1	8.35E-3	-8.16E-1	1.36E+0
GWP-f	kg CO2 eq	1.43E+0	1.91E-2	8.30E-2	1.53E+0	1.74E-2	5.74E-1	8.35E-3	-8.58E-1	1.27E+0
GWP-b	kg CO2 eq	-9.78E-2	1.16E-5	7.01E-3	-9.08E-2	1.06E-5	1.22E-1	7.33E-6	4.27E-2	7.42E-2
GWP-luluc	kg CO2 eq	6.94E-4	6.74E-6	7.00E-3	7.70E-3	6.16E-6	9.77E-5	1.41E-7	-5.21E-4	7.29E-3
ODP	kg CFC11 eq	4.73E-8	4.39E-9	8.32E-9	6.00E-8	4.01E-9	1.34E-8	2.10E-10	-3.77E-8	3.99E-8
AP	mol H+ eq	5.31E-3	1.09E-4	3.35E-4	5.75E-3	9.92E-5	5.61E-4	5.01E-6	-2.56E-3	3.86E-3
EP-fw	kg P eq	2.47E-5	1.57E-7	1.29E-6	2.62E-5	1.43E-7	2.84E-6	6.49E-9	-1.34E-5	1.57E-5
EP-m	kg N eq	9.30E-4	3.88E-5	5.65E-5	1.03E-3	3.55E-5	1.66E-4	3.55E-6	-4.74E-4	7.56E-4
EP-T	mol N eq	1.04E-2	4.28E-4	6.35E-4	1.14E-2	3.91E-4	1.83E-3	2.03E-5	-5.30E-3	8.36E-3
POCP	kg NMVOC eq	4.62E-3	1.22E-4	1.97E-4	4.94E-3	1.12E-4	5.73E-4	7.63E-6	-2.28E-3	3.35E-3
ADP-mm	kg Sb eq	4.76E-5	4.93E-7	2.02E-6	5.02E-5	4.50E-7	2.19E-6	5.02E-9	-6.76E-6	4.60E-5
ADP-f	MJ	4.97E+1	2.93E-1	1.09E+0	5.11E+1	2.67E-1	1.72E+0	1.53E-2	-2.61E+1	2.70E+1
WDP	m3 depriv.	9.78E-1	8.98E-4	3.86E-1	1.37E+0	8.20E-4	3.39E-2	7.02E-5	-5.03E-1	8.97E-1
PM	disease inc.	5.08E-8	1.72E-9	3.35E-9	5.58E-8	1.57E-9	9.07E-9	1.05E-10	-2.49E-8	4.17E-8
IR	kBq U-235 eq	3.27E-2	1.28E-3	1.02E-3	3.50E-2	1.17E-3	5.26E-3	7.13E-5	-1.54E-2	2.61E-2
ETP-fw	CTUe	1.41E+1	2.38E-1	1.72E+0	1.61E+1	2.17E-1	2.09E+0	1.36E-2	-7.00E+0	1.14E+1
HTP-c	CTUh	3.95E-10	8.45E-12	9.18E-11	4.96E-10	7.72E-12	2.31E-10	3.71E-13	-1.98E-10	5.37E-10
HTP-nc	CTUh	1.00E-8	2.83E-10	1.91E-9	1.22E-8	2.59E-10	2.92E-9	8.43E-12	-4.99E-9	1.04E-8
SQP	Pt	1.25E+1	2.50E-1	1.99E-1	1.29E+1	2.29E-1	1.36E+0	3.93E-2	-1.61E+1	-1.53E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.37E+0	4.20E-3	3.78E+0	6.15E+0	3.83E-3	8.41E-2	6.02E-4	-2.87E+0	3.36E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.37E+0	4.20E-3	3.78E+0	6.15E+0	3.83E-3	8.41E-2	6.02E-4	-2.87E+0	3.36E+0
PENRE	MJ	5.33E+1	3.11E-1	1.19E+0	5.48E+1	2.84E-1	1.84E+0	1.63E-2	-2.82E+1	2.88E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.33E+1	3.11E-1	1.19E+0	5.48E+1	2.84E-1	1.84E+0	1.63E-2	-2.82E+1	2.88E+1
PET	MJ	5.57E+1	3.15E-1	4.97E+0	6.10E+1	2.88E-1	1.92E+0	1.69E-2	-3.10E+1	3.21E+1
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	1.55E-2	3.31E-5	9.18E-3	2.47E-2	3.02E-5	1.08E-3	1.89E-5	-8.34E-3	1.74E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.13E-6	7.48E-7	1.06E-6	9.94E-6	6.83E-7	2.89E-6	1.84E-8	-7.49E-6	6.05E-6
NHWD	kg	6.85E-2	1.81E-2	1.03E-2	9.70E-2	1.66E-2	8.55E-2	6.76E-2	-2.71E-2	2.40E-1
RWD	kg	3.21E-5	1.99E-6	1.13E-6	3.52E-5	1.82E-6	6.70E-6	1.00E-7	-1.44E-5	2.95E-5
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0

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